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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/808,750 | 03/25/2004 | Thomas C. Targosz | 23852 | 5872 |

50659 7590 06/05/2006

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EXAMINER

AURORA, REENA

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2862

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/808,750 | Applicant(s) TARGOSZ, THOMAS C. | |
| | Examiner Reena Aurora | Art Unit 2862 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3 - 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15 is/are allowed.
- 6) ☒ Claim(s) 1, 3 - 8 and 11, 12 is/are rejected.
- 7) ☒ Claim(s) 9, 10, 13 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This communication is in response to amendment received on 03/13/06.

Applicant has canceled claim 2 and added new claim 15.

Claims 1 and 3 – 15 are presented for examination.

Claim Objections

Claims 3 and 4 are objected to because of the following informalities: claims 3 and 4 depend from claim 2, which is a canceled claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3 - 8 and 11 - 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ondrus et al. (5,831,151) in view of Theissen et al. (4,816,758).

As to claims 1 and 3 - 4, Ondrus et al. (hereinafter Ondrus) discloses ferromagnetic tagging material suspended in a constituent mixing system having a first sensor (B sensor) for generating a first sense signal representing an amount of ferrous taggant particles per unit volume of a first component flowing adjacent the first sensor

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(B); a second sensor (AB sensor) for generating a second sense signal representing an amount of ferrous taggant particles per unit volume of a mixture of the first component and a ferrous taggant particle free second component flowing adjacent the second sensor (AB sensor); and a control (40) means responsive to the first and second sense signals for calculating a ratio of the volumes of the first and second components in the mixture (col. 3, line 35 – col. 4, line 39) and wherein at least first (B) and second (AB) sensors has a generally tubular body with a central passage through which material flows, Ondrus fails to disclose that an inner sense coil extending about a circumference of the passage, a drive coil extending about a circumference of the inner sense coil and an outer sense coil extending about a circumference of the drive coil. Theissen et al. (hereinafter Theissen) discloses a method and apparatus for the direction of slag co-flowing within a stream of molten metal wherein an inner drive coil (3) extending about a circumference of the passage, a sense coil (4) extending about a circumference of the inner drive coil and an outer drive coil (3a) extending about a circumference of the sense coil. It would be within the level of one skilled in the art to position a sense coil between two drive coils or a drive coil between two sense coils. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Ondrus with the teachings of Theissen such that positioning an inner coil extending about a circumference of the passage, a drive coil extending about a circumference of the inner sense coil and an outer sense coil extending about a circumference of the drive coil to obtain a precise signal.

As to claim 11, Ondrus discloses ferromagnetic tagging material suspended in a constituent mixing system including the steps of a) providing a first sensor (B sensor) for generating a first sense signal representing an amount of ferrous taggant particles per unit volume of a first component flowing into a mixing device; b) providing a second sensor (AB sensor) generating a second sense signal representing an amount of ferrous taggant particles per unit volume of a mixture of the first component and a ferrous taggant particle free second component flowing in the mixing device; and c) providing control means (40) for calculating a ratio of the volumes of the first and second components in the mixture (col. 3, line 35 – col. 4, line 39) and wherein at least first (B) and second (AB) sensors has a generally tubular body with a central passage through which material flows, Ondrus fails to disclose that an inner sense coil extending about a circumference of the passage, a drive coil extending about a circumference of the inner sense coil and an outer sense coil extending about a circumference of the drive coil. Theissen et al. (hereinafter Theissen) discloses a method and apparatus for the direction of slag co-flowing within a stream of molten metal wherein an inner drive coil (3) extending about a circumference of the passage, a sense coil (4) extending about a circumference of the inner drive coil and an outer drive coil (3a) extending about a circumference of the sense coil. It would be within the level of one skilled in the art to position a sense coil between two drive coils or a drive coil between two sense coils. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Ondrus with the teachings of Theissen such that positioning an inner coil extending about a circumference of the passage, a drive

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coil extending about a circumference of the inner sense coil and an outer sense coil extending about a circumference of the drive coil to obtain a precise signal.

As to claims 5 - 6 and 12, Ondrus discloses comparing a value of the first sense signal with a value of the second sense generated after a predetermined delay representing a time required for a portion of the first component to travel from the first sensor to the second sensor (col. 5, lines 1 – 37 and fig. 4).

As to claim 7, Ondrus discloses control means connected to an information processing device and generating an output signal representing the ration of the volumes to the information processing device (50, fig. 1).

As to claim 8, Ondrus discloses an A/D converter (420) for converting the first (B) and second (AB) sense signals (fig. 2).

Allowable Subject Matter

Claim 15 is allowed.

Claims 9 – 10 and 13 - 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to claims 1, 3 - 15 have been considered but are moot in view of the new ground(s) of rejection.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reena Aurora whose telephone number is 571-272-2263. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, E. Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Reena Aurora